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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,693	07/28/2003	Jae-Yoon Sim	SEC.999	3208

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EXAMINER

WELLS, KENNETH B

ART UNIT PAPER NUMBER

2816

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/627,693	SIM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kenneth B. Wells	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 19-23 is/are rejected.
- 7) ☒ Claim(s) 11-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The amendment filed on 3/28/05 has been received and entered in the case. In view of the arguments included therein, the previous rejections are now withdrawn and replaced with new prior art rejections.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by either Namiki et al or Misawa et al.

Note Fig. 4 of Namiki et al,, where the recited "comparator circuit" reads on element 12; the recited "variable current node" reads on the non-inverting input of comparator 12; the recited "variable resistance circuit" reads on circuit 15; and the recited "trimming circuit" reads on the switches 18n and control circuitry which selectively turns them on or off. The functional recitation on lines 3-6 of claim 21 is deemed to be inherent in the operation of the reference, and the recited "threshold current" is seen to read on the current generated by circuit 17.

Also note Fig. 12 of Misawa et al, where the recited "comparator circuit" reads on element 224; the recited "variable current node" reads on the non-inverting input of comparator

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224; the recited "variable resistance circuit" reads on the series-coupled resistors R1 through RN-1; and the recited "trimming circuit" reads on the switches T1 through TN-1 and control circuitry which selectively turns them on or off. The functional recitation on lines 3-6 of claim 21 is deemed to be inherent in the operation of the reference, and the recited "threshold current" is seen to read on the current flowing through FET 227 and resistors 230, 231.

4. Claims 1-7, 19, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Namiki et al or Misawa et al in view of any one of Raad, Muyshondt et al, Forehand et al, Hayama and Southard.

As to claims 1 and 7, the use of a variable resistance divider circuit, where the individual resistors have different values, though not disclosed by the two primary references, nevertheless would have been obvious to those having ordinary skill in the art because it is old and well-known in the art to use such dividers, as taught by the five secondary references. The motivation to use a variable resistance divider in either Namiki et al or Misawa et al is to provide the advantage of coarse tap point control, i.e., greater voltage change using the

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same number of resistor elements (as explicitly taught by each of the secondary references).

As to claims 2-6 and 8-10, see paragraph four of the previous office action as to the obviousness of these limitations.

Finally, note that the claims reciting plural resistance circuits having different numbers of resistors with different values, will still read on the combination of either Namiki et al or Misawa et al in view of any one of Raad, Muyschondt et al, Forehand et al, Hayama and Southard because the two primary references teach "n" resistors which means that any number of resistors is possible (i.e., suggested) and with the secondary teachings of different combinations of different resistor values, these further claims will also fail to distinguish patentably over the above-noted prior art combinations.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Namiki et al or Misawa et al in view of well-known prior art.

The use of fuses to switch the resistor elements in or out of the series connection, though not disclosed by the primary references, also would have been obvious as a routine design expedient because it is old and well-known to switch divider

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resistors in/out in this manner, official notice being taken of such fact (see, for example, Raad).

6. Claims 11-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

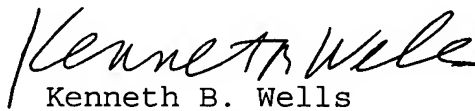
7. In view of the above-noted new grounds of rejection not necessitated by applicant's amendments, this action is non-final.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B. Wells whose telephone number is (571)272-1757. The examiner can normally be reached on Monday through Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan, can be reached at (571)272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kenneth B. Wells  
Primary Examiner  
Art Unit 2816

May 13, 2005